Southern Nuclear

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Southern Nuclear Operating Company
Vogtle Electric Generating Plant Unit 4
ITAAC Closure Notification on Completion of ITAAC 2.3.07.07c [Index Number 408]

Ladies and Gentlemen:

In accordance with 10 CFR 52.99(c)(1), the purpose of this letter is to notify the Nuclear Regulatory Commission (NRC) of the completion of Vogtle Electric Generating Plant (VEGP) Unit 4 Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Item 2.3.07.07c [Index Number 408], for verifying check valve exercise testing requirements, pump flowrate, and controls and displays in the main control room (MCR) of the Spent Fuel Pool Cooling System. The closure process for this ITAAC is based on the guidance described in NEI 08-01, “Industry Guideline for the ITAAC Closure Process under 10 CFR Part 52”, which is endorsed by the NRC in Regulatory Guide 1.215.

This letter contains no new NRC regulatory commitments. Southern Nuclear Operating Company (SNC) requests NRC staff confirmation of this determination and publication of the required notice in the Federal Register per 10 CFR 52.99.

If there are any questions, please contact Kelli Roberts at 706-848-6991.

Respectfully submitted,

Jamie M. Coleman
Regulatory Affairs Director Vogtle 3 & 4

Enclosure: Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.3.07.07c [Index Number 408]

JMC/PCM/sfr

cc: Regional Administrator, Region ll
Director, Office of Nuclear Reactor Regulation (NRR)
Director, Vogtle Project Office NRR
Senior Resident Inspector – Vogtle 3 & 4

Southern Nuclear Operating Company
ND-23-0130
Enclosure

Vogtle Electric Generating Plant (VEGP) Unit 4
Completion of ITAAC 2.3.07.07c [Index Number 408]

ITAAC Statement

Design Commitment

7c) The SFS provides check valves in the drain line from the refueling cavity to prevent flooding of the refueling cavity during containment flooding.

8. The SFS provides the nonsafety-related function of removing spent fuel decay heat using pumped flow through a heat exchanger.

9. Safety-related displays identified in Table 2.3.7-1 can be retrieved in the MCR.

10. Controls exist in the MCR to cause the pumps identified in Table 2.3.7-3 to perform their listed functions.

11. Displays of the SFS parameters identified in Table 2.3.7-3 can be retrieved in the MCR.

Inspections/Tests/Analyses

Exercise testing of the check valves with active safety-functions identified in Table 2.3.7-1 will be performed under pre-operational test pressure, temperature and flow conditions.

ii) Testing will be performed to confirm that each SFS pump provides flow through its heat exchanger when taking suction from the SFP and returning flow to the SFP.

Inspection will be performed for retrievability of the safety-related displays in the MCR.

Testing will be performed to actuate the pumps identified in Table 2.3.7-3 using controls in the MCR.

Inspection will be performed for retrievability in the MCR of the displays identified in Table 2.3.7-3.

Acceptance Criteria

Each check valve changes position as indicated on Table 2.3.7-1.

ii) Each SFS pump produces at least 900 gpm through its heat exchanger.

Safety-related displays identified in Table 2.3.7-1 can be retrieved in the MCR.

Controls in the MCR cause pumps identified in Table 2.3.7-3 to perform the listed functions.

Displays of the SFS parameters identified in Table 2.3.7-3 are retrieved in the MCR.

ITAAC Determination Basis

Testing is performed to demonstrate that the Spent Fuel Pool Cooling System (SFS) provides check valves in the drain line from the refueling cavity to prevent flooding of the refueling cavity during containment flooding, verifies the SFS provides the nonsafety-related function of

removing spent fuel decay heat using pumped flow through a heat exchanger, and that controls exist in the Main Control Room (MCR) to cause the pumps identified in Table 2.3.7-3 to perform their listed functions. Inspections are performed to verify that safety-related displays identified in Table 2.3.7-1 can be retrieved in the MCR and that displays of the SFS parameters identified in Table 2.3.7-3 can be retrieved in the MCR.

Each check valve changes position as indicated on Table 2.3.7-1.

Testing was performed in accordance with Unit 4 Preoperational Test 4-SFS-ITPP-502 (Reference 1) as documented in Reference 2 with the initial conditions of the refueling cavity drain isolation valve closed, with water level in the refueling cavity at a level of approximately 107 ft. elevation (approximately 3 inches below the reactor vessel flange), temporary drain hose attached to the cavity drain with a valve attached and routed to a floor drain, and non-intrusive valve disk monitoring installed on SFS-PL-V071 and SFS-PL-V072. The refueling cavity drain isolation valve and the temporary valve on the drain hose were opened to initiate flow and both check valves were verified to open by flow and the non-intrusive monitoring instruments. The temporary valve on the drain hose was closed to stop flow and both check valves were verified to close using the non-intrusive monitoring instruments. This was documented in ITAAC Technical Report SV4-SFS-ITR-800408 (Reference 2). This flow path is depicted on Piping and Instrument Drawing SV4-SFS-M6-001.

This testing verified that for Unit 4, each check valve changed position as indicated on Combined Operating License (COL) Appendix C Table 2.3.7-1 (Attachment A).

ii) Each SFS pump produces at least 900 gpm through its heat exchanger.

Testing was performed in accordance with 4-SFS-ITPP-502 (Reference 1) as documented in Reference 3. The test was conducted by running each of the SFS pumps individually, taking suction from and returning flow to the Spent Fuel Pool (SFP). Once steady flow was established, instrument readings were taken at the respective SFS pump discharge flow sensor, recorded in the test procedure and corrected for measurement uncertainty. The test was performed using multiple system alignments with the demineralizers in/out of service and single and dual pump configurations.

The Unit 4 A SFS pump (SFS-MP-01A) produced a minimum flow of 1415 gallons per minute (gpm) for all alignments and the B SFS pump (SFS-MP-01B) produced a minimum flow of 1353 gpm for all alignments during testing. This was documented in ITAAC Technical Report SV4-SFS-ITR-801408 (Reference 3).

The Unit 4 preoperational test results (Reference 3) confirmed that each SFS pump produced at least 900 gpm through its heat exchanger when taking suction from and returning flow to the SFP.

Safety-related displays identified in Table 2.3.7-1 can be retrieved in the MCR.

An inspection was performed to confirm that safety-related displays identified in COL Appendix C Table 2.3.7-1 (Attachment B) can be retrieved in the MCR.

The inspection visually confirmed that when each of the safety-related displays identified in Attachment B was summoned at the MCR Protection and Safety Monitoring System (PMS) Visual Display Units (VDUs), the summoned safety-related display appears on the PMS VDU. This was documented in ITAAC Technical Report SV4-SFS-ITR-802408 (Reference 4).

This confirmed that the safety-related displays identified in Table 2.3.7-1 can be retrieved in the Unit 4 MCR.

Controls in the MCR cause pumps identified in Table 2.3.7-3 to perform the listed functions.

Testing was performed to verify controls in the MCR cause pumps identified in COL Appendix C Table 2.3.7-3 (Attachment C) to perform the listed functions.

Testing was performed by ensuring the SFS B Train was filled and vented and then SFS Pump B was started per the operating procedure in the MCR. The test then ensured the SFS A Train was filled and vented and then SFS Pump A was started per the operating procedure in the MCR. Both pump starts were verified locally and documented in ITAAC Technical Report SV4-SFS-ITR-802408 (Reference 4).

This confirmed that controls in the MCR cause pumps identified in Table 2.3.7-3 to perform the listed functions.

Displays of the SFS parameters identified in Table 2.3.7-3 are retrieved in the MCR.

An inspection was performed to confirm that the displays identified in COL Appendix C Table 2.3.7-3 (Attachment D) can be retrieved in the MCR.

The inspection visually confirmed that when each of the displays of parameters identified in Attachment D was summoned at a MCR workstation, the summoned plant parameter appeared on a display monitor at that MCR workstation. This was documented in ITAAC Technical Report SV4-SFS-ITR-802408 (Reference 4).

References 1 through 4 are available for NRC inspection as part of the Unit 4 ITAAC Completion Package (Reference 5).

List of ITAAC Findings

In accordance with plant procedures for ITAAC completion, Southern Nuclear Operating Company (SNC) performed a review of all findings pertaining to the subject ITAAC and associated corrective actions. This review found there were no relevant ITAAC findings associated with this ITAAC. The ITAAC completion review is documented in the ITAAC Completion Package for ITAAC 2.3.07.07c (Reference 5) and is available for NRC review.

ITAAC Completion Statement

Based on the above information, SNC hereby notifies the NRC that ITAAC 2.3.07.07c was performed for VEGP Unit 4 and that the prescribed acceptance criteria were met.

Systems, structures, and components verified as part of this ITAAC are being maintained in their as-designed, ITAAC compliant condition in accordance with approved plant programs and procedures.

References (available for NRC inspection)

1. 4-SFS-ITPP-502, Rev 1.1, “TPC for Spent Fuel Pool Cooling System Flow Path Preoperational Test Procedure”
2. SV4-SFS-ITR-800408, Rev 0, ITAAC Technical Report, “Unit 4 Recorded Results of SFS Check Valves Position: ITAAC 2.3.07.07c Item 7c”
3. SV4-SFS-ITR-801408, Rev 0, ITAAC Technical Report, “Unit 4 Recorded Results of SFS Pump Flow: ITAAC 2.3.07.07c Item 8.ii”
4. SV4-SFS-ITR-802408, Rev 0, ITAAC Technical Report, “Unit 4 Recorded Results of MCR Safety-Related Displays: ITAAC 2.3.07.07c Item 9, 10 and 11”
5. 2.3.07.07c-U4-CP-Rev0, “ITAAC Completion Package”

Attachment A

*Excerpt from COL Appendix C Table 2.3.7-1

*Component Name	*Tag No.	*Active Function
Refueling Cavity Drain Line Check Valve	SFS-PL-V071	Transfer Open Transfer Closed
Refueling Cavity Drain Line Check Valve	SFS-PL-V072	Transfer Open Transfer Closed

Attachment B

*Excerpt from COL Appendix C Table 2.3.7-1

*Component Name	*Tag No.	*Safety-Related Display
Spent Fuel Pool Level Sensor	SFS-019A	Yes
Spent Fuel Pool Level Sensor	SFS-019B	Yes
Spent Fuel Pool Level Sensor	SFS-019C	Yes
Refueling Cavity Drain to SGS Compartment Isolation Valve	SFS-PL-V031	Yes
Refueling Cavity Drain to Containment Sump Isolation Valve	SFS-PL-V033	Yes
SFS Containment Floodup Isolation Valve	SFS-PL-V075	Yes

Attachment C

*Excerpt from COL Appendix C Table 2.3.7-3

*Component Name	*Tag No.	*Control Function
SFS Pump A	SFS-MP-01A	Start
SFS Pump B	SFS-MP-01B	Start

Attachment D

*Excerpt from COL Appendix C Table 2.3.7-3

*Component Name	*Tag No.	*Display
SFS Pump A	SFS-MP-01A	Yes (Run Status)
SFS Pump B	SFS-MP-01B	Yes (Run Status)
SFS Flow Sensor	SFS-13A	Yes
SFS Flow Sensor	SFS-13B	Yes
Spent Fuel Pool Temperature Sensor	SFS-018	Yes
Cask Loading Pit Level Sensor	SFS-022	Yes